

AMENDMENTS TO THE CLAIMS

In the Claims

The claims are amended as follows:

1 1. (Currently amended) A brake controller system comprising:

2 brakes located on a towed vehicle;

3 a brake activator for applying force to said brakes;

4 a brake control unit in communication with said brake activator, said brake

5 control unit having a CPU, said brake control unit adapted to receive electrical energy from a

6 battery;

7 said CPU in electrical communication with a bus that is in communication with at

8 least said brake activator such that said CPU provides a variable brake activation signal to said

9 brake activator, said CPU capable of detecting an inadequate braking from said brakes on said

10 towed vehicle without a manual input;

11 a pressure sensor for providing pressure information to said CPU, said pressure

12 sensor measuring a pressure within a master brake cylinder of a towing vehicle; and

13 a voltage booster in communication with said CPU adapted to receive electrical

14 energy from said battery and provide boosted voltage to said brake activator after CPU detects

15 said inadequate braking and signals said voltage booster to provide said boosted voltage.

1 2. (Original) The brake controller system according to claim 1 wherein said brakes are

2 electric brakes.

1 3. (Canceled)

1 4. (Original) The brake controller system according to claim 1 wherein:

2 said brake activator is comprised of magnets; and

3 a current sensor for maintaining constant amperage to the towed vehicle brakes.

1 5. (Original) The brake controller system according to claim 4 wherein:

2 said CPU adjusts a signal for brake activation, based at least partially on data
3 from said current sensor.

1 6. (Canceled)

1 7. (Previously amended) The brake controller system according to claim 1 wherein:

2 said brake control unit is located within the towing vehicle.

1 8. (Original) The brake controller system according to claim 1 wherein:

2 said bus communicates said CPU with brake lights on said towing vehicle.

1 9. (Canceled)

1 10. (Original) The brake controller system according to claim 1 wherein:

2 said bus is a brake wire that receives multiplexed signals.

1 11. (Currently amended) The brake controller system according to claim 1 further
2 comprising:

3 an alpha numeric display on a front face of said ~~brake controller unit~~ brake control
4 unit and in communication with said CPU for use as a visual indicator to an operator.

1 12. (Currently amended) The brake controller system according to claim 1 further
2 comprising:

3 a control panel on said ~~brake controller unit~~ brake control unit comprising an
4 adjust selection display down button, and adjust selection display up button, an enter selection
5 displayed button and a scroll menu button.

1 13. (Currently amended) The brake controller system according to claim 1 further
2 comprising:

3 a sliding brake switch on ~~brake controller unit~~ brake control unit for manually and
4 variably operating said brakes.

1 14. (Currently amended) A method for operating a brake controller system for a towed
2 vehicle comprising:

3 receiving, by a CPU, a pressure signal indicating an amount of pressure in a
4 master brake cylinder of a towing vehicle;

5 detecting, by said CPU, an inadequate braking in a brake on said towed vehicle
6 without a manual input;

7 signaling a voltage booster, by said CPU after detecting said inadequate braking,
8 to supply additional voltage above a towing vehicle standard voltage; and

9 actuating ~~the towed vehicle brakes~~ said brake on the towed vehicle.

1 15. (Currently amended) A method for operating a brake controller system for a towed
2 vehicle comprising:

3 sensing brake fluid pressure within a towing vehicle's master brake cylinder;

4 sensing current in an electric brake system on said towed vehicle;

5 calculating with a brake controller unit the appropriate amount of brake force to
6 be applied by a brake activator;
7 determining, by ~~said CPU~~ a CPU and without a manual input, whether a voltage
8 booster is required to supply additional voltage to said towed vehicle's electric brake system;
9 actuating said towed vehicle's ~~electric brakes~~ electric brake system, without
10 actuating said ~~towing vehicle brakes~~ towing vehicle's master brake cylinder, ~~by use of a manual~~
11 ~~thumb brake switch~~;
12 generating a signal from said brake controller unit that is based upon and directly
13 proportional to a linear position of the manual thumb brake switch; and activating said brake
14 activator with said signal; and
15 applying an appropriate amount of brake force with an appropriate amount of
16 voltage as directed by said brake controller unit.

1 16. (Currently amended) The method for operating a brake controller system according
2 to claim 15 further comprising:

3 signaling brake lights and ~~a brake activator~~ said brake activator with said brake
4 controller unit over a brake line by multiplexing signals over said brake line.

1 17. (Canceled)

1 18. (Currently amended) The method for operating a brake controller system according
2 to claim 15 further comprising the steps of:

3 storing data within ~~a CPU~~ said CPU of said brake controller system;
4 displaying at least a portion of said data with an alphanumeric display as a visual
5 indicator to the vehicle operator during operation of the brake controller;

6 wherein said data is selected from a group comprising: Brake Gain; Time; Date;
7 Last Maximum Brake; Last Maximum Stroke; Last Test: Maximum Brake; Last Test: Maximum
8 Stroke; Truck Control: Serial Number; Truck Control: Date Manufactured; Truck Control; Born
9 on Date; Trailer Control: Serial Number; Trailer Control: Date Manufactured; Trailer Control:
10 Born on Date; Run Diagnostic: Test Brakes.

1 19. (Canceled)

1 20. (Currently amended) The trailer brake system of ~~claim 19~~claim 1, further
2 comprising:

3 a finger control for actuating said trailer brake ~~system~~ without actuating said
4 brake system of said towing vehicle, said finger control being electrically connected to said CPU,
5 said finger control generating a braking signal based on a movement or position of said finger
6 control.

1 21. (Currently amended) The brake controller system of ~~claim 19~~claim 1, further
2 comprising:

3 an alpha numeric display connected to said CPU for displaying trailer brake
4 related information to user during operation of said trailer brake system, said trailer brake related
5 information being at least one of Brake Gain; Time; Date; Last Maximum Brake; Last
6 Maximum Stroke; Last Test: Maximum Brake; Last Test: Maximum Stroke; Truck Control:
7 Serial Number; Truck Control: Date Manufactured; Truck Control; Born on Date; Trailer
8 Control: Serial Number; Trailer Control: Date Manufactured; Trailer Control: Born on Date; and
9 Run Diagnostic: Test Brakes.

1 22. (Canceled)

1 23. (New) The brake controller system according to claim 1 wherein said voltage
2 booster is connected to a voltage doubler and is capable of providing said boosted voltage to said
3 brake activator above a standard voltage of said battery.

1 24. (New) The brake controller system according to claim 1 wherein said CPU is
2 capable of transmitting a signature address query and receiving a matching address echo from
3 said brake activator on said towed vehicle.

1 25. (New) The brake controller system according to claim 1 wherein said CPU is
2 capable of detecting, without a manual input, one of a group consisting of (1) type of said towed
3 vehicle, (2) type of said brakes located on said towed vehicle, and (3) number of axles on said
4 towed vehicle, and is capable of programming brake controller system in response to said
5 detecting.

1 26. (New) The brake controller system according to claim 25 wherein:

2 said voltage booster is connected to a voltage doubler and is capable of providing
3 said boosted voltage to said brake activator above a standard voltage of said battery;

4 said brake activator comprises a current sensor for maintaining constant amperage
5 to the towed vehicle brakes; and

6 said CPU adjusts a signal for brake activation, based at least partially on data
7 from said current sensor.

1 27. (New) The method for operating a brake controller system for a towed vehicle
2 according to claim 14 further comprising:

3 transmitting, by said CPU, a signature address query and receiving a matching

4 address echo from said brake on said towed vehicle;

5 detecting, by said CPU without a manual input, one of a group consisting of (1)

6 type of said towed vehicle, (2) type of said brake located on said towed vehicle, and (3) number

7 of axles on said towed vehicle; and

8 programming of said brake controller system, by said CPU, in response to said

9 detecting.